

Project Name	Can State Health Departments Use All-Payer Claims Data for Chronic Disease Surveillance?
Project Status	Proposed
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Center	National Center for Chronic Disease Prevention and Health Promotion
Keywords	Chronic disease surveillance, Claims data
Project Description	<p>Chronic diseases endanger the health of the nation. Nearly half of all adults in the United States have at least one chronic health condition, and chronic diseases dominate the leading causes of death, morbidity, and health care costs. Because of these threats, chronic disease surveillance is a critical public health task. Traditionally, chronic disease surveillance has involved analysis of self-reported survey data (Behavioral Risk Factor Surveillance System, BRFSS), hospital discharge data, and vital statistics, but access to statewide data from outpatient healthcare services has been limited. A lack of statewide outpatient data limits public health surveillance efforts in chronic disease (when many are diagnosed and managed in the outpatient setting), prevents the assessment of outpatient care in the management of chronic diseases, and limits a state's ability to assess the impact and effectiveness of intervention programs for chronic diseases.</p> <p>Efforts have been made to access outpatient data. With increased adoption of electronic health records (EHRs) over the past decade, public health has sought to use EHRs to complement chronic disease surveillance. However, EHR use for public health surveillance has been difficult because of challenges in data collection and transfer and privacy concerns. Administrative claims data offer an alternative (though not equivalent) means of gaining insight into the outpatient setting. Collected to monitor health care costs across multiple payers, all-payer claims databases (APCDs) capture information from medical, dental, and pharmacy claims, including subscriber (i.e., patient) demographic information, diagnosis and procedure codes, health care setting information, and cost information. Thirteen states have invested in the creation of APCDs; four states are implementing APCDs; and more states are interested in establishing APCDs. For this project, four states (Massachusetts, New Hampshire, Rhode Island, and Vermont) propose to analyze their respective APCDs to assess state-wide population representativeness and the burden of hypertension and diabetes.</p> <p>Although APCDs have traditionally informed health services research and health insurance markets, APCDs might offer insight into the burden of chronic diseases and complement current chronic disease surveillance activities. In the fall of 2015, New Hampshire (NH) used CDC Surveillance System Evaluation Guidance to evaluate the NH APCD. NH concluded that, for chronic disease surveillance needs, the NH APCD was timely, stable, and flexible, and, from initial review, had adequate data quality. A preliminary comparison of disease prevalence in 2012 calculated from the 2012 NH APCD and 2012 BRFSS showed a hypertension prevalence of 21.6% in the NH APCD compared to 30.5% (95% CI 29.1–32.0) in BRFSS, and diabetes prevalence of 8.6% in the NH APCD and 8.6% in BRFSS (95% CI 7.6–9.4). However, because of the complexity of claims data, the NH APCD was not simple or acceptable to analyze by public health epidemiologists. NH is working to improve acceptability (i.e., create access to data that can be analyzed in SAS rather than SQL; create a data dictionary; and, identify which NH APCD variables out of the hundreds available should be used in analyses) so that its APCD can be more widely used by public health programs. NH also identified a need to compare the NH APCD to other surveillance data sets (i.e., NH BRFSS, hospital discharge records) and further assess how representative the APCD is to the state population. For example, NH public health professionals have expressed concern that NH residents who worked and received medical care in neighboring states and NH residents who are uninsured would not have their claims captured in the NH APCD potentially limiting the state-wide population representativeness of the NH APCD.</p>

For this project, four state health departments propose to collaborate to compare their respective APCDs and answer several questions:

- How representative is the subscriber population of the state's APCD to the actual state population as reported by the U.S. Census?
- How do disease prevalence estimates from APCD compare to estimates available from state-specific BRFSS and hospital discharge records?
- What data quality concerns exist among the state's APCDs? Are certain variable fields consistently missing, i.e., race/ethnicity not documented?
- How much out-of-state healthcare utilization occurs, and what is the need for interstate data sharing to better estimate chronic disease rates along border communities?
- Does analysis of APCDs enhance current public health surveillance for hypertension and diabetes? For example, are small-area estimates available through analysis of APCDs that were not available through BRFSS or hospital discharge data?

The states propose to create an analysis plan and coordinate methods to ensure comparability. Because public health analysis of APCDs is new for these states, the states expect a need to discuss questions and challenges that arise during the analysis. Biweekly calls with the states would be held during the analysis to discuss progress through the analytic process. The project involves using funds for technical assistance with APCD analytical questions.

We expect a multistate analysis to identify strengths and limitations in the use of APCDs in chronic disease surveillance. For example, states might find that APCDs offer ZIP-code-level disease data not previously available but not include information on race or ethnicity. Additionally, we expect the project to encourage and require state health departments to engage with their states' APCD stewards to identify and resolve interstate data sharing issues.

The states' experience during this project is expected to provide an approach that could be used by other states to analyze their APCDs for public health surveillance. An ultimate goal of this project is to build state public health capacity to analyze APCDs, part of which includes having states understand the limitations and reach of their APCDs. If successful, this project would offer other states an approach to analysis of their APCDs and would inform the analyses of other chronic diseases, including asthma, cancer, and oral health.

This project also provides the opportunity for states to discuss what health care-related economic questions their respective public health departments should consider answering. Time permitting, some of the states hope to begin to identify economic questions that might be answered by public health, including:

- How can a state public health agency use its state's APCD to describe the economic burden of hypertension, coronary artery disease, and diabetes?
- For patients with hypertension, what is the difference in health care costs experienced by patients who fill their antihypertensive medications compared to those who do not fill?
- How do healthcare costs for hypertension or diabetes vary by payer type?

This project aligns with the NCCDPHP Core Focus Domains of Epidemiology and Surveillance (Domain 1) and Health Care System Interventions (Domain 3) and with ongoing work with NCCDPHP CDC-RFA-DP13-1305. The project also aligns with three CDC Surveillance Strategy Goals as the project seeks to: enhance resource use and innovation for surveillance in support of state agencies; accelerate the use of emerging tools and approaches to improve the availability of surveillance data; and, as a multistate project, is a cross-cutting initiative to improve surveillance by addressing data availability, usability, and incorporation of new information technologies. Additionally, the project addresses several 2016 surveillance priority areas, including:

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collaboration and communication tools and process; data analysis and visualization; and, emerging data and health IT standards. Finally, because this project encourages states to understand and use their respective APCDs which contain health care cost information, this project might provide the basis for state health departments to pursue health care cost analyses, an activity that would be useful in supporting CDC's new 6|18 Initiative.

We propose measuring the activity through comparisons of surveillance results, creation of a technical guidance document which includes descriptions of the definitions used and analysis methodology, and drafting a white paper or manuscript describing the benefits and limitations of using APCDs for public health surveillance and identifying potential areas for future exploration.

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